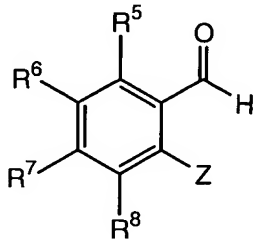
AMENDMENTS TO THE CLAIMS:

LISTING OF CLAIMS

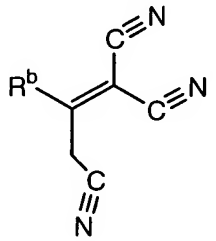
This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A method of making a tricyclic aminocyanopyridine ~~MK-2 inhibiting~~ compound, the method comprising:

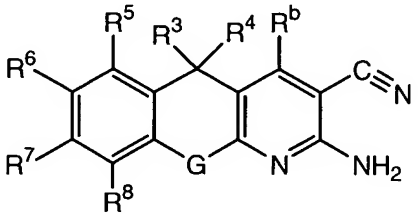
reacting a substituted benzaldehyde having the structure:



with a tricarbonitrile having the structure:



to form an aminocyanopyridine compound having the structure:



wherein:

Z is selected from the group consisting of -OH, -SH, and -NR^{a}Y;

R^a ~~R$_a$~~ is selected from the group consisting of alkyl, aryl, and heteroaryl;

Y is a protecting group for nitrogen that is selected from the group consisting of benzyl, allyl, alkyl carbamates and benzyl carbamate;

G is selected from the group consisting of oxygen, sulfur, and nitrogen;

when G is oxygen, it is unsubstituted;

when G is sulfur, it is either unsubstituted or is substituted with one or two oxo groups;

when G is nitrogen, it is ~~is it~~ substituted with C_1-C_4 alkyl;

R^b is selected from the group consisting of furyl and -NH-R^2;

R^2 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxyalkyl, alkylaryl, arylalkyl, alkoxyaryl, aminoalkyl, alkylaminoalkyl, arylaminoalkyl, alkoxyalkyl, alkylcarboxy, and carboxyalkyl;

R^3 and R^4 are each independently selected from the group consisting of hydrogen, dicyanoalkyl, and substituted or unsubstituted heterocyclyl and cyclyl, where substituents, if any, comprise halo moieties; and

R^5, R^6, R^7 and R^8 are each independently selected from the group consisting of hydrogen, hydroxy, alkoxy, halo, alkyl, alkenyl, alkylyl, arylalkyl, alkylaryl, amino, alkylamino, arylamino, alkylaminoalkyl, carboxy, aminoalkoxy, alkylcarboxyalkyl, alkylamino, aminoalkyl, nitro, aryl, arylamino, alkenoxy, hydroxyalkoxy, alkoxyalkoxy, heterocyclylalkyl, heterocyclylalkoxy, carboxyalkoxy, alkylaminoalkoxy, alkylcarboxyalkoxy, pyrrolidylethoxy, hydroxyalkoxy, and alkylcarboxy, where R^6 and R^7 are such that they optionally join to form a six membered heterocyclic ring.

2. (original) The method according to claim 1, wherein:

R^2 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxyalkyl, alkylaryl, arylalkyl, alkoxyaryl, aminoalkyl, alkylaminoalkyl, arylaminoalkyl, alkoxyalkyl, alkylcarboxy, and carboxyalkyl;

R^3 and R^4 are each independently selected from the group consisting of hydrogen, dicyanoalkyl, and substituted or unsubstituted heterocyclyl and cyclyl, where substituents, if any, comprise halo moieties;

R^5 is selected from the group consisting of hydrogen, alkoxy, halo, alkyl, alkenyl, alkylyl, arylalkyl, or alkylaryl;

R^6 is selected from the group consisting of hydrogen, hydroxy, alkoxy, alkyl, alkenyl, alkynyl, amino, alkylamino, arylamino, alkylaminoalkyl, carboxy, aminoalkoxy, halo, alkylcarboxyalkyl, alkylamino, aminoalkyl, nitro, aryl, arylalkyl, alkylaryl, or arylamino;

R^7 is selected from the group consisting of hydrogen, hydroxy, alkoxy, alkenoxy, hydroxyalkoxy, alkoxyalkoxy, aminoalkoxy, heterocyclylalkyl, heterocyclylalkoxy, carboxyalkoxy, alkylaminoalkoxy, and alkylcarboxyalkoxy;

where the R^6 and R^7 groups can join to form a six membered heterocyclic ring; and

R^8 is selected from the group consisting of hydrogen, hydroxy, halo, nitro, amino, alkyl, alkoxy, heterocyclylalkoxy, carboxyalkoxy, pyrrolidylethoxy, carboxymethoxy, hydroxyalkoxy, aminoalkoxy, alkylcarboxy, alkylaminoalkyl, carboxy, and heterocyclylalkyl.

3. (original) The method according to claim 1, wherein the reacting step comprises heating the substituted benzaldehyde and the tricarbonitrile in a mixture of ethanol and acetic acid.

4. (original) The method according to claim 3, wherein the mixture is heated to reflux temperature at atmospheric pressure.

5. (original) The method according to claim 4, further comprising recovering the aminocyanopyridine compound.

6. (original) The method according to claim 5, wherein the recovering step comprises concentrating the reaction product of the substituted benzaldehyde and the tricarbonitrile under vacuum; mixing the concentrated reaction product with trifluoroacetic acid; adding triethylsilane to the mixture of concentrated reaction product and trifluoroacetic acid; adding dichloromethane to the mixture of concentrated reaction product and trifluoroacetic acid; and collecting solids comprising the aminocyanopyridine compound.

7. (original) The method according to claim 6, wherein the triethylsilane is added to the concentrated reaction product while the mixture is being stirred at 0°C for about 1 hour.

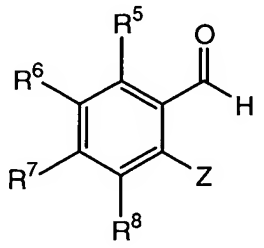
8. (original) The method according to claim 6, wherein the solids are collected by filtration and further comprising washing the solids with dichloromethane and ether.

9. (original) The method according to claim 1, wherein the substituted benzaldehyde comprises salicaldehyde and the tricarbonitrile comprises 2-amino-1-propene-1,1,3-tricarbonitrile.

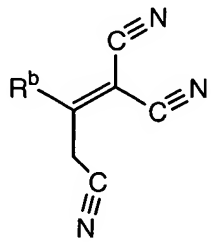
10. (original) The method according to claim 1, wherein Y comprises tert-butylcarbamate.

11. (currently amended) A method of making a tricyclic aminocyanopyridine ~~MK-2 inhibiting~~ compound, the method comprising:

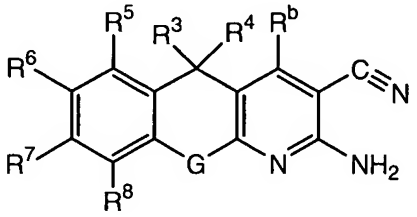
reacting a substituted benzaldehyde having the structure:



with a tricarbonitrile having the structure:



to form an aminocyanopyridine compound having the structure:



wherein:

Z is selected from the group consisting of -OH, -SH, and -NR^aY;

$\underline{R^a}$ ~~R_a~~ is selected from the group consisting of alkyl, aryl, and heteroaryl;

Y is a protecting group for nitrogen that is selected from the group consisting of benzyl, allyl, alkyl carbamates and benzyl carbamate;

G is selected from the group consisting of oxygen, sulfur, and nitrogen;

when G is oxygen, it is unsubstituted;

when G is sulfur, it is either unsubstituted or is substituted with one or two oxo groups;

when G is nitrogen, it is substituted with C_1-C_4 alkyl;

R^b is selected from the group consisting of furyl and -NH-R^2;

R^2 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxyalkyl, alkylaryl, arylalkyl, alkoxyaryl, aminoalkyl, alkylaminoalkyl, arylaminoalkyl, alkoxyalkyl, alkylcarboxy, and carboxyalkyl;

R^3 and R^4 are each independently selected from the group consisting of hydrogen, dicyanoalkyl, and substituted or unsubstituted heterocyclyl and cyclyl, where substituents, if any, comprise halo moieties; and

R^5, R^6, R^7 and R^8 are each independently selected from the group consisting of:

hydrogen, hydroxy, amino, halo, nitro,

branched or unbranched C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_1-C_6 alkoxy, hydroxy C_1-C_6 alkyl, hydroxy C_1-C_6 alkoxy, C_1-C_6 alkoxy C_1-C_6 alkoxy, C_1-C_6 alkoxy C_1-C_6 alkyl, C_2-C_6 alkenoxy,

branched or unbranched amino C_1-C_6 alkyl, diamino C_2-C_6 alkyl, C_1-C_6 alkylamino C_1-C_6 alkyl, C_1-C_6 alkylamino, di-(C_1-C_6 alkyl)amino, C_1-C_4 alkoxyarylamino, C_1-C_4 alkoxyalkylamino, amino C_1-C_6 alkoxy, di-(C_1-C_4 alkylamino, C_2-C_6 alkoxy, di-(C_1-C_6 alkyl)amino C_1-C_6 alkyl, C_1-C_6 alkylamino C_1-C_6 alkoxy, halo C_1-C_6 alkoxy, dihalo C_1-C_6 alkoxy, trihalo C_1-C_6 alkoxy, cyano C_1-C_6 alkyl, dicyano C_1-C_6 alkyl, cyano C_1-C_6 alkoxy, dicyano C_1-C_6 alkoxy, carbamyl C_1-C_4 alkoxy, heterocyclyl C_1-C_4 alkoxy, heteroaryl C_1-C_4 alkoxy, sulfo, sulfamyl, C_1-C_4 alkylaminosulfonyl, hydroxy C_1-C_4 alkylaminosulfonyl, di-(C_1-C_4 alkyl)aminosulfonyl, C_1-C_4 alkylthio, C_1-C_4 alkylsulfonyl, C_1-C_4 alkylsulfinyl,

aryl, aryl C_1-C_6 alkyl, heterocyclyl C_1-C_6 alkyl, heteroaryl C_1-C_6 alkyl, heterocyclyl C_1-C_6 alkoxy, heteroaryl C_1-C_6 alkoxy, aryl C_1-C_6 alkoxy, where the aryl ring can be substituted or unsubstituted, and, if substituted, the substituent group is selected from one or more of the group consisting of C_1-C_6 alkyl, halo, amino, and C_1-C_6 alkoxy,

substituted or unsubstituted C_3-C_6 cyclyl, C_3-C_6 heterocyclyl, and, if substituted, the substituent group is selected from one or more of the group consisting of C_1-C_6 alkyl, C_1-C_6 alkoxy, halo, amino, and where the C_3-C_6 heterocyclyl ring contains O, S, or N,

branched or unbranched C_1-C_6 alkoxycarbonyl C_1-C_6 alkoxy, and

carboxy, carboxy C_1-C_6 alkoxy, carboxy C_1-C_6 alkyl, hydroxy C_1-C_4 alkoxycarbonyl, C_1-C_4 alkoxycarbonyl.

12. (currently amended) The method according to claim 11, wherein:

R^1 is selected from the group consisting of hydrogen, branched or unbranched alkyl, alkenyl, alkynyl, alkoxy, alkylaryl, arylalkyl, carboxy, carboxyalkyl, hydroxyalkyl, alkylcarboxy, aryl, amino, aminoalkyl, alkylamino, halo, alkylaminoalkyl, alkoxy, alkoxyalkyl, monocyclyl, bicyclyl, polycyclyl, and heterocyclyl;

R^2 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxyalkyl, alkylaryl, arylalkyl, alkoxyaryl, aminoalkyl, alkylaminoalkyl, arylaminoalkyl, alkoxyalkyl, alkylcarboxy, and carboxyalkyl;

R^3 is selected from the group consisting of hydrogen, dicyanoalkyl, and substituted or unsubstituted heterocyclyl and cyclyl, where substituents, if any, comprise halo moieties;

R^4 is selected from the group consisting of hydrogen, dicyanoalkyl, and substituted or unsubstituted heterocyclyl and cyclyl, where substituents, if any, comprise halo moieties;

R^5 is selected from the group consisting of hydrogen, alkoxy, halo, alkyl, alkenyl, alkylyl, arylalkyl, or alkylaryl;

R^6 is selected from the group consisting of hydrogen, hydroxy, alkoxy, alkyl, alkenyl, alkynyl, amino, alkylamino, arylamino, alkylaminoalkyl, carboxy, aminoalkoxy, halo, alkylcarboxyalkyl, alkylamino, aminoalkyl, nitro, aryl, arylalkyl, alkylaryl, or arylamino;

R^7 is selected from the group consisting of hydrogen, hydroxy, alkoxy, alkenoxy, hydroxyalkoxy, alkoxyalkoxy, aminoalkoxy, heterocyclylalkyl, heterocyclylalkoxy, carboxyalkoxy, alkylaminoalkoxy, and alkylcarboxyalkoxy;

where the R^6 and R^7 groups can join to form a six membered heterocyclic ring;

R^8 is selected from the group consisting of hydrogen, hydroxy, halo, nitro, amino, alkyl, alkoxy, heterocyclylalkoxy, carboxyalkoxy, pyrrolidylethoxy, carboxymethoxy, hydroxyalkoxy, aminoalkoxy, alkylcarboxy, alkylaminoalkyl, carboxy, and heterocyclylalkyl; and

G is selected from the group consisting of oxygen, sulfur, and nitrogen;

when G is oxygen, it is unsubstituted ~~R^9 and R^{10} are absent~~;

when G is sulfur, it is unsubstituted or it is substituted with one or two oxo groups ~~each of R^9 and R^{10} is optionally absent or is oxo~~;

when G is nitrogen, it is substituted with ~~R^9 is absent, and R^{10} is~~ C_1-C_4-alkyl.

13. (currently amended) The method according to claim 11, wherein:

R^1 is selected from the group consisting of hydrogen, ethyl, dimethylaminoethyl, butyl, propyl, methoxyethyl, tetramethylaminoethyl, and carboxymethyl;

R^2 is selected from the group consisting of hydrogen, hydroxyethyl, propyl, ethyl, methyl, 4-methoxyphenyl, ethoxyethyl, aminoethyl, phenylmethyl, dimethylaminoethyl, phthaloaminoethyl, butyl, methoxyethyl, tetramethylaminoethyl, and carboxymethyl;

R^3 is selected from the group consisting of hydrogen, dicyanomethyl, 2-fluorophenyl, phenyl, and 3-fluorophenyl.

R^4 is selected from the group consisting of hydrogen, dicyanomethyl, 2-fluorophenyl, phenyl, and 3-fluorophenyl;

R^5 is selected from the group consisting of hydrogen, hydroxy, methoxy, bromo, and 2-pyridomethyl;

R^6 is selected from the group consisting of hydrogen, hydroxy, methoxy, amino, carboxy, diaminoethoxy, bromo, propoxy, isobutylcarboxymethoxy, dimethylamino, nitro, phenyl, chloro, pyridylmethyl, and fluoro;

R^7 is selected from the group consisting of hydrogen, hydroxy, methoxy, hydroxyethoxy, ethoxyethoxy, ethoxy, aminoethoxy, morpholinoethoxy, carboxymethoxy, *N*-pyrrolidylethoxy, dimethylaminoethoxy, pyridylmethyl, 2-propenoxy, and isobutylcarboxymethoxy, where the R^6 and R^7 groups can join to form a six membered heterocyclic ring;

R^8 is selected from the group consisting of hydrogen, hydroxy, fluoro, methoxy, nitro, amino, pyrrolidylethoxy, carboxymethoxy, methyl, hydroxyethoxy, aminoethoxy, 4-pyridylmethoxy, isobutyl, ethylcarboxy, dimethylaminoethoxy, carboxy, bromo, and pyrridylmethyl; and

G is selected from the group consisting of oxygen, sulfur, and nitrogen;

when G is oxygen, it is unsubstituted ~~R^9 and R^{10} are absent~~;

when G is sulfur, it is unsubstituted or it is substituted with one or two oxo groups ~~each of R^9 and R^{10} is optionally absent or is oxo~~;

when G is nitrogen, it is substituted with ~~R^9 is absent and R^{10} is~~ $-CH_3$.

14. (currently amended) The method according to claim 11, wherein:

R^1 is selected from the group consisting of hydrogen, and C_1-C_2 alky;

R^2 is selected from the group consisting of hydrogen, C_1-C_3 alkyl, hydroxy C_1-C_2 alkyl, C_1-C_2 alkoxyphenyl, C_1-C_2 alkoxy C_1-C_2 alkyl, amino C_1-C_2 alkyl, phenyl C_1-C_2 alkyl, and di C_1-C_2 alkylamino C_1-C_2 alkyl;

R^3 and R^4 are each independently selected from the group consisting of hydrogen, dicyano C_1-C_2 alkyl, and halophenyl;

R^5 is selected from the group consisting of hydrogen, and hydroxy;

R^6 is selected from the group consisting of hydrogen, hydroxy, C_1 - C_3 alkoxy, amino, nitro, carboxy, diamino C_1 - C_2 alkoxy, halo, propenoxy, iso C_3 - C_4 alkylcarboxy C_1 - C_2 alkoxy, di C_1 - C_2 alkylamino, and phenyl;

R^7 is selected from the group consisting of hydrogen, hydroxy, C_1 - C_3 alkoxy, hydroxy C_1 - C_2 alkoxy, C_1 - C_2 alkoxy C_1 - C_2 alkoxy, amino C_1 - C_2 alkoxy, morpholino C_1 - C_2 alkoxy, carboxyl C_1 - C_2 alkoxy, pyrrolidyl C_1 - C_2 alkoxy, di C_1 - C_2 alkylamino C_1 - C_2 alkoxy, pyrrolidyl C_1 - C_2 alkyl, iso C_3 - C_4 alkylcarboxy C_1 - C_2 alkoxy, and $_2$-propenoxy,

where the R^6 and R^7 groups can join to form a six membered heterocyclic ring;

R^8 is selected from the group consisting of hydrogen, hydroxy, halo, C_1-C_2 alkyl, C_1-C_2 alkoxy, nitro, amino, pyrrolidyl C_1-C_2 alkoxy, carboxy C_1-C_2 alkoxy, hydroxy C_1-C_2 alkoxy, and amino C_1-C_2 alkoxy; and

G is selected from the group consisting of oxygen and sulfur;

when G is sulfur, it is unsubstituted or is substituted with one or two oxo groups ~~each of R^9 and R^{10} is optionally absent or is oxo~~;

when G is oxygen, it is unsubstituted ~~R^9 and R^{10} are absent~~.

15. (currently amended) The method according to claim 11, wherein:

R^1 is hydrogen;

R^2 is selected from the group consisting of hydrogen, C_1 - C_3 alkyl, hydroxy C_1 - C_2 alkyl, C_1 - C_2 alkoxyphenyl, C_1 - C_2 alkoxy C_1 - C_2 alkyl, amino C_1 - C_2 alkyl, phenyl C_1 - C_2 alkyl, and di C_1 - C_2 alkylamino C_1 - C_2 alkyl;

R^3 and R^4 are each independently selected from the group consisting of hydrogen, and dicyano C_1 - C_2 alkyl.

R^5 is selected from the group consisting of hydrogen, and hydroxy;

R^6 is selected from the group consisting of hydrogen, hydroxy, C_1-C_2 alkoxy, amino, carboxy, nitro, diamino C_1-C_2 alkoxy, halo, 2-propenoxy, iso C_3-C_4 alkylcarboxy C_1-C_2 alkoxy, di C_1-C_2 alkylamino, and phenyl;

R^7 is selected from the group consisting of hydrogen, hydroxy, C_1 - C_2 alkoxy, hydroxy C_1-C_2 alkoxy, C_1-C_2 alkoxy C_1-C_2 alkoxy, amino C_1-C_2 alkoxy, morpholino C_1-C_2 alkoxy, carboxyl C_1-C_2 alkoxy, pyrrolidyl C_1-C_2 alkoxy, di C_1-C_2 alkylamino C_1-C_2 alkoxy, pyrrolidyl C_1-C_2 alkyl, iso C_3-C_4 alkylcarboxy C_1-C_2 alkoxy, and 2-propenoxy;

wherein the R^6 and R^7 groups can join to form a six membered heterocyclic ring;

R^8 is selected from the group consisting of hydrogen, hydroxy, halo, C_1-C_2 alkoxy, nitro, amino, pyrrolidyl C_1-C_2 alkoxy, and carboxy C_1-C_2 alkoxy; and

G is selected from the group consisting of oxygen and sulfur;

when G is sulfur, it is unsubstituted or it is substituted with one or two oxo groups ~~each of R^9 and R^{10} is optionally absent or is oxo~~;

when G is oxygen, it is unsubstituted ~~R^9 and R^{10} are absent~~.

16. (currently amended) The method according to claim 11, wherein:

R^1 is hydrogen;

R^2 is selected from the group consisting of hydrogen, C_1-C_3 alkyl, hydroxy C_1-C_2 alkyl, C_1-C_2 alkoxyphenyl, C_1-C_2 alkoxy C_1-C_2 alkyl, amino C_1-C_2 alkyl, and phenyl C_1-C_2 alkyl;

R^3 and R^4 are each independently selected from the group consisting of hydrogen, and dicyano C_1-C_2 alkyl.

R^5 is selected from the group consisting of hydrogen, and hydroxy;

R^6 is selected from the group consisting of hydrogen, hydroxy, C_1-C_2 alkoxy, amino, carboxy, diamino C_1-C_2 alkoxy, halo, 2-propenoxy, iso C_3-C_4 alkylcarboxy C_1-C_2 alkoxy, and di C_1-C_2 alkylamino;

R^7 is selected from the group consisting of hydrogen, hydroxy, C_1-C_2 alkoxy, hydroxy C_1-C_2 alkoxy, C_1-C_2 alkoxy C_1-C_2 alkoxy, amino C_1-C_2 alkoxy, morpholino C_1-C_2 alkoxy, carboxyl C_1-C_2 alkoxy, pyrrolidyl C_1-C_2 alkoxy, di C_1-C_2 alkylamino C_1-C_2 alkoxy, pyrrolidyl C_1-C_2 alkyl, iso C_3-C_4 alkylcarboxy C_1-C_2 alkoxy, and 2-propenoxy;

where the R^6 and R^7 groups can join to form a six membered heterocyclic ring;

R^8 is selected from the group consisting of hydrogen, hydroxy, halo, C_1-C_2 alkoxy, nitro, amino, and pyrrolidyl C_1-C_2 alkoxy; and

G is selected from the group consisting of oxygen and sulfur;

when G is sulfur, it is unsubstituted or it is substituted with one or two oxo groups ~~each of R^9 and R^{10} is optionally absent or is oxo~~;

when G is oxygen, it is unsubstituted there ~~R^9 and R^{10} are absent~~.

17. (currently amended) The method according to claim 11, wherein:

R^1 is hydrogen;

R^2 is selected from the group consisting of hydrogen, C_1-C_3 alkyl, hydroxy C_1-C_2 alkyl, C_1-C_2 alkoxyphenyl, C_1-C_2 alkoxy C_1-C_2 alkyl, and amino C_1-C_2 alkyl;

R^3 and R^4 are each independently selected from the group consisting of hydrogen, and dicyanoethyl;

R^5 is selected from the group consisting of hydrogen, and hydroxy;

R^6 is selected from the group consisting of hydrogen, hydroxy, C_1-C_2 alkoxy, amino, carboxy, diamino C_1-C_2 alkoxy, halo, 2-propenoxy, iso C_3-C_4 alkylcarboxy C_1-C_2 alkoxy, and di C_1-C_2 alkylamino;

R^7 is selected from the group consisting of hydrogen, hydroxy, C_1-C_2 alkoxy, hydroxy C_1-C_2 alkoxy, C_1-C_2 alkoxy C_1-C_2 alkoxy, amino C_1-C_2 alkoxy, morpholino C_1-C_2 alkoxy, carboxyl C_1-C_2 alkoxy, pyrrolidyl C_1-C_2 alkoxy, di C_1-C_2 alkylamino C_1-C_2 alkoxy, pyrrolidyl C_1-C_2 alkyl, iso C_3-C_4 alkylcarboxy C_1-C_2 alkoxy, and 2-propenoxy;

where the R^6 and R^7 groups can join to form a six membered heterocyclic ring;

R^8 is selected from the group consisting of hydrogen, hydroxy, halo, methoxy, nitro, and amino; and

G is selected from the group consisting of oxygen and sulfur;

when G is sulfur, it is unsubstituted or it is substituted with one or two oxo groups ~~each of R^9 and R^{10} is optionally absent or is oxo~~;

when G is oxygen, it is unsubstituted ~~R^9 and R^{10} are absent~~.